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ABSTRACT

In an attempt to investigate attitudinal dimensions of beginning elementary student teachers, beginning secondary student teachers, and supervising teachers, and to discover if these groups vary a great deal in the meaning they attribute to certain educational concepts, a series of 12 teacher judgment differential scales concerned with moral, aesthetic, social, and emotional factors were constructed. The classroom concepts judged were: planning, textbooks, ideas, facts, homework, lecture, discussion, and story telling. The instruments were administered to randomly selected subjects: 37 elementary student teachers, 29 secondary student teachers, and 60 supervising teachers (18 elementary and 42 secondary). Factor analysis of data from the three groups indicated that the secondary student teachers had the least diversified view of the school setting and the supervising teachers had the most diversified view. Discriminating analysis of factor scores from the previous analysis showed that the elementary student teachers' attitudes were similar to those of the supervising teachers, with the secondary student teachers being different from both other groups. It is recommended on the basis of this study, that prospective student teachers, particularly secondary, be informed that their attitudes will probably differ from those of the supervising teacher. (RT)

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ATTITUDINAL DIMENSIONS OF SUPERVISING TEACHERS, ELEMENTARY STUDENT TEACHERS, AND SECONDARY STUDENT TEACHERS

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As Getzels and Jackson (1963) have indicated, the personality of the teacher is a significant variable in the classroom. However, as they have also pointed out, the single most general reason for conceptual and experimental limitation on personality has been the failure to develop an adequate theoretical base. This is as true of research on attitudes as on any other aspect of personality. The need, therefore, for approaches to attitude measurement with adequate rationale is apparent.

In respect to this latter condition, Osgood, (1957) and his colleagues, in their work in experimental semantics, have developed a rationale for attitude measurement which has shown promise. If attitude is assumed to be some portion of the internal mediational

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activity as indicated by Doob (1947), it is, by inferring from Osgood's theoretical model, part of the individual's semantic structure.

According to Osgood, the meaning of a concept in terms of the operations of measurement with the semantic differential, is defined as its allocation to a point in the multi-dimensional semantic space. Since every point in semantic space has an evaluative component, every concept must involve a component of attitudes as part of its meaning. Attitude toward a concept, therefore, is defined as the projection of the point into the evaluative dimension of that space. Osgood, et. al, found certain evaluative clusters which they called "morally evaluative", "aesthetically evaluative", "socially evaluative", and "emotionally evaluative". The investigators, in the present study, attempted to use these factors in order to permit a more sensitive measure of differences in attitudes. Kerlinger (1964) has pointed out that the Semantic Differential might be used to study attitudes and the semantic space of teacher trainers as well as teachers who have had actual experience. It may, therefore, be possible to measure the dimensions of student teachers' and supervising teachers' attitudes by using semantic differential scales with high loadings on the various evaluative factors.

Based on the foregoing, the purposes of this study were (1) to attempt to investigate the attitudinal dimensions of beginning elementary student teachers, beginning secondary student teachers, and supervising teachers by focusing on the moral, aesthetic, social and emotional evaluative factors, and (2) to discover if these groups vary a great deal in the meaning they attribute to certain educational

concepts.

In order to accomplish the above purposes the following research hypotheses were tested:

I. The supervising teachers will exhibit a different factor structure than will the beginning elementary and secondary student teachers, while these latter two groups will be quite similar in their underlying semantic factors.

II. In terms of group means on all the derived factor scores, the groups of teachers will not be from the same population.

Procedure. A series of twelve teacher judgment differential scales heavily loaded on the evaluative factor and specifically concerned with the moral, aesthetic, social, and emotional factors were constructed. The classroom concepts judged were: planning, textbooks, ideas, facts, homework, lecture, discussion, and story telling. The apriori loadings of scales on the factors were as follows: (1) Moral, fair-unfair, clear-unclear, valuable-worthless, (2) Aesthetic, pleasant-unpleasant, nice-awful, sweet-bitter, (3) Social, honest-dishonest, high-low, brave-cowardly, and (4) Emotional, calm-agitated, relaxed-tense, soft-hard. The instruments were administered to 37 elementary and 29 secondary student teachers the day prior to student teaching. The subjects were randomly selected and these data were collected anonymously. Sixty supervising teachers, 18 elementary and 42 secondary were administered the same instruments as the beginning student teachers during the first two weeks of the student teaching quarter. These data were also collected anonymously. Hypothesis I was subjectively tested with a factor matching technique. It was expected that the coefficient between

the elementary and secondary student teacher would be high and that the coefficients between these two groups and the supervising teacher would be low.

Hypothesis II was tested by multiple discriminant analysis calculated on the factor scores resulting from a factor analysis of the total sample. The factor analytic procedure utilized the principle component analysis with unities in the main diagonal. All factors having an eigenvalue greater than 1.0 were rotated to the normalized varimax criterion.

Results. The factor analysis of the sixty supervising teachers yielded the four hypothesized factors. (Table 1) In fact, two of the three hypothesized scales were related to each factor. The four factors, tentatively called Social (pleasant, valuable, and brave loading highest), Moral (unfair, not clear, dishonest), Emotional (tense, agitated, loud), and Aesthetic (bitter, low, awful) accounted for approximately the same amount of variance.

The factor analysis of the thirty-seven elementary student teachers yielded three factors, (Table 2), with the first two factors accounting for most of the variance. Tentative names given to these factors were: Moral (fair, clear, honest, soft), Intrinsic (relaxed, pleasant, calm, sweet, nice), and Environmental (low, valuable). The factor analysis of the twenty-nine secondary student teachers yielded only two factors, (Table 3), tentatively named Extrinsic (fair, honest, high valuable, nice, brave) and Intrinsic (relaxed, pleasant, calm). The three factor matrices were then compared using Kaiser's (1960) suggested procedure for matching factors across samples. The results shown in Table 4 indicated

that Factor II in the elementary student teacher structure was composed of two separate factors in the supervising teacher sample. The extrinsic factor in the secondary teacher structure (Factor I) was a fusion of all the evaluative factors found in the supervising teachers structure. The intrinsic factor in the Secondary Student Teacher sample (Factor II) seemed to be related to the emotional factor (Factor III) in the supervising teacher structure.

To summarize the results of testing Hypothesis I, the secondary student teachers seemed to have a more restricted or less diversified view of the school setting as defined by responses to the scales. The elementary student teachers appeared to more closely approach the supervising teachers' frame of reference (using the number of factors as the criterion).

In order to test the second hypothesis, the factor analysis was performed on all subjects as a single group. By utilizing this method, the position of the three groups in a common semantic space was determined and tested for significant departures. The factor analysis yielded an "extrinsic" factor composed of the hypothesized moral and social evaluative factors (Table 5). The hypothesized aesthetic and emotional factors emerged as separate factors for the combined sample. (Factors III and II respectively in Table 5.)

In answering the question posed by the second hypothesis, it was necessary to ask whether it was possible to discriminate among the three groups in the factor space of three dimensions. This analysis involved using verimax factor space from the previous analysis and then submitting the factor scores to discriminant analysis (Table 6).

The discriminant analysis results indicated that there was one linear function which discriminated among the three groups. (Table 6). It should be noted that in terms of the group centroids on the first discriminant function the elementary student teachers were closer to the supervising teachers than were the secondary student teachers.

Discussion. The results of testing the second hypothesis supported the view that the three groups perceived the school situation differently. The secondary student teachers seemed in this analysis to also be more different from supervising teachers than were the elementary student teachers. The data in this connection did indicate that the elementary student teachers were more congruent, in the perception of the school milieu, with the supervising teachers than were the secondary student teachers.

The factors found in this study were identified in a subjective manner. However, this labelling of factors might help to interpret factors found in subsequent studies and thus permit more understanding of differences among teachers' attitudes.

Based on this exploratory study, a tentative recommendation might be that efforts should be made, in the pre-student teaching program, to inform student teachers, particularly secondary student teachers, to expect that their attitudes will differ from that of the supervising teacher. At the same time, information of a similar nature should be supplied to the supervising teachers. Perhaps if this is done, stability in meaning could be enhanced and communication and understanding, particularly in the initial phase of student teaching, could be considerably improved. In other words,

there seems to be evidence, in this study, of differences in the attitudinal dimensions between student teachers and supervising teachers. These differences might lead to early communication problems and these problems could conceivably affect adversely the learning situation in the school setting unless teachers and student teachers are clearly aware of the differences and attempt to ameliorate this initial situation.

Finally, the investigators are of the opinion, based on their experience in this project with the teacher judgment scale, that such instruments have promise in providing a sensitive measure of attitudes of pre-service and experienced teachers.

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Table 1

Varimax Factor Loadings for Supervising Teachers

Factor	I	II	III	IV	
Fair	-16	77	-00	17	Unfair
Tense	46	-15	-52	-21	Relaxed
Clear	01	82	16	05	Not Clear
Unpleasant	50	-16	-48	21	Pleasant
Honest	-26	75	02	18	Dishonest
Agitated	36	-23	-60	-03	Calm
Sweet	11	17	28	80	Bitter
Loud	02	05	-80	-03	Soft
High	-22	04	-47	58	Low
Worthless	74	-19	-26	17	Valuable
Nice	-26	28	06	60	Awful
Cowardly	73	-08	02	-21	Brave
% of variance	16%	17%	16%	13%	

NOTE: Since each concept was treated as a separate subject, N=480 (60 Ss x 8 concepts)

Decimal points have been omitted from factor loadings.

Table 2

Varimax Factor Loadings for Elementary Student Teachers

Factor	I	II	III	
Fair	75	-24	13	Unfair
Tense	-27	69	04	Relaxed
Clear	80	-16	-11	Not Clear
Unpleasant	-37	74	09	Pleasant
Honest	72	-19	12	Dishonest
Agitated	-18	67	32	Calm
Sweet	08	-79	16	Bitter
Loud	-74	31	-08	Soft
High	-00	23	80	Low
Worthless	27	-36	69	Valuable
Nice	37	-67	09	Awful
Cowardly	-39	41	-09	Brave
% of Variance	24%	26%	11%	

NOTE: Since each concept was treated as a separate subject, N=296 (37 Ss x 8 concepts.)

Decimal points have been omitted from factor loadings.

Table 3

Varimax Factor Loadings for Secondary Student Teachers

Factor	I	II	
Fair	72	-18	Unfair
Tense	-16	76	Relaxed
Clear	48	-42	Not Clear
Unpleasant	-44	64	Pleasant
Honest	76	-17	Dishonest
Agitated	-20	80	Calm
Sweet	48	-57	Bitter
Loud	25	57	Soft
High	61	22	Low
Worthless	-65	33	Valuable
Nice	63	-44	Awful
Cowardly	-68	09	Brave
% of Variance	29%	24%	

NOTE: Since each concept was treated as a separate subject, N=232 (29 Ss x 8 concepts.)

Decimal points have been omitted from factor loadings.

Table 4

Cosines of Angles Formed by Matching Factors According to Kaiser's Method

	Supervising Teachers				Elementary Student Teachers			Secondary Student Teachers	
	I	II	III	IV	I	II	III	I	II
I					.17	.42	.24	-.53	.24
II					.98	.13	.04	.61	-.18
III					.05	-.64	-.58	-.31	-.94
IV					.03	-.62	.77	.48	-.11
I								.80	-.20
II								-.15	.82
III								.56	.52

Table 5

Varimax Factor Loadings for the Combined Subjects

Factor	I	II	III	
Fair	.72	-01	24	Unfair
Tense	.31	60	-29	Relaxed
Clear	68	-15	07	Not Clear
Unpleasant	41	57	-31	Pleasant
Honest	72	-03	24	Dishonest
Agitated	-28	69	-15	Calm
Sweet	08	-36	77	Bitter
Loud	08	74	17	Soft
High	22	30	70	Low
Worthless	-71	28	01	Valuable
Nice	39	-27	57	Awful
Cowardly	-51	15	-25	Brave

NOTE: N=1008, treating each concept as a separate subject.

Table 6

Discriminant Analysis Results: Group Centroids
On the Two Discriminant Functions

Sample	Group Centroids	
	Discriminant Function 1	Discriminant Function 2
Supervising Teachers	0.1330	0.0099
Elementary Student Teachers	-0.0896	-0.0665
Secondary Student Teachers	-0.1608	0.0643
Variance Accounted for	88.06%	11.94%
χ^2	16.95[a*]	2.31[b]

a df=4

b df=2

* $p<.01$